## AMENDMENTS TO THE CLAIMS

1-42 (cancelled)

43. (new) Antibody A or a specific antigen-biding fragment thereof, where the antibody that binds specifically to one or both of a leptin receptor and a leptin-binding protein, wherein the binding substantially reduces interaction of the leptin receptor or of the leptin-binding protein with its ligand.

44. (new) Antibody A according to claim 43, wherein the binding prevents interaction of the leptin receptor or of the leptin-binding protein with its ligand.

45. (new) Antibody A according to claim 43, which specifically binds to an extracellular domain of a leptin receptor, or of a leptin-binding protein.

46. (new) Antibody A according to one of claim 43, wherein the antibody binds to a ligand binding site of the leptin-binding protein.

47. (new) Antibody A according to claim 43, wherein the ligand is leptin.

48. (new) Antibody A according to claim 43, wherein the leptin-binding protein is solubilized or suspended in a bodily fluid.

49. (new) Antibody A according to claim 43, which is a monoclonal antibody.

50. (new) Antibody A according to claim 43, which is the antibody ZMC2.

51. (new) Antibody A according to claim 43, wherein the antibody is humanized.

52. (new) Antibody A according to claim 43, having an amino acid selected from the group consisting of SEQ ID NOs: 1, 2, 3, 6, or 8, or encoded by a nucleic acid having a sequence of SEQ ID NO: 4, 5 or 7.

53. (new) An F(ab') 2 fragment or a single-chain antibody (scFv) of an antibody according to claim 43.

54. (new) A pharmaceutical composition comprising antibody A or a specific antigen-biding fragment thereof according to claim 43.

55. (new) A fusion protein comprising as a first portion an Antibody A or a specific antigen-biding fragment thereof, and a second portion which is an antibody or a fragment thereof of a polypeptide.

56. (new) The fusion protein according to Claim 55, wherein polypeptide is leptin.

57. (new) The fusion protein according to claim 55, further comprising a linker between the first and the second portions.

58. (new) The fusion protein according to Claim 57, wherein the linker comprises about 5 to 40 amino acid residues, preferably about 5 to 30 amino acid residues, or more preferably about 5 to 20 amino acid residues.

59. (new) The fusion protein according to Claim 57, wherein the linker comprises at least 50%, preferably at least 60%, , more preferably at least 70% and most preferably at least 80%, glycine.

60. (new) The fusion protein according to Claim 57, wherein the fusion protein is bispecific.

61. (new) The fusion protein according to Claim 60, wherein the fusion protein is specific to a leptin receptor or a leptin-binding protein as a first specificity, and to a cell surface protein as a second specificity.

62. (new) The fusion protein according to Claim 55, wherein the fusion protein comprises an amino acid sequence or SEQ ID NO: 8, or is encoded by the nucleic acid having a sequence SEQ ID NO:7.

63. (new) A method for quantitative determination of a ligand of a leptin binding protein or of a leptin receptor in a sample containing a leptin receptor or a leptin-binding protein and the ligand, the method comprising

adding to the sample (1) an antibody A or a specific antigen-biding fragment thereof, where the antibody that binds specifically to one or both of a leptin receptor and a leptin-binding protein, wherein the binding substantially reduces interaction of the leptin receptor or of the leptin-binding protein with its ligand, or (2) a fusion protein comprising as a first portion the Antibody A or the specific antigen-biding fragment thereof, and a second portion which is an antibody or a fragment thereof of a polypeptide, and

quantitatively determine the amount of ligand.

64. (new) A method for treating a disease or a condition due to excessive leptin level in a patient in need thereof, comprising administering an effective amount of a pharmaceutical composition comprising (1) an antibody A or a specific antigen-biding fragment thereof, where the antibody that binds specifically to one or both of a leptin receptor and a leptin-binding protein, wherein the binding substantially reduces interaction of the leptin receptor or of the leptin-binding protein with its ligand, or (2) a fusion protein comprising as a first portion the

Antibody A or the specific antigen-biding fragment thereof, and a second portion which is an antibody or a fragment thereof of a polypeptide, and a pharmaceutically acceptable excipient,

wherein the disease or condition is caused by alteration of the patient's energy metabolism, alterations of the patient's immune system, or wherein the disease or condition is associated with the MAPK/ERK1-2, AKT, p-27-kip1 signaling pathways,

and wherein immune actions of leptin in the patient is blocked, or wherein the patient has excessive leptin levels.

65. (new) The method according to Claim 53, wherein the alternation of energy metabolism includes an eating disorder selected from anorexia, nervosa and cachexia, and the alternation of immune system comprises undesired activation of the immune system selected from the group consisting of multiple sclerosis, rheumatoide arthritis, diabetes, diabetes type1, systemic lupus erythematosus (SLE), chronic polyarthritis, Basedow's disease, autoimmune forms of chronic hepatitis, colitis ulcerosa, allergie type 1-diseases, allergie typeII-diseases, allergie type syndrome, rheumatic arthritis, vaskulitis, TH1 mediated diseases, type 1 diabetes, chronic heart failure (CHF), TNF- mediated diseases, autoimmune colitis, rheumatoid arthritis, systemic lupus erithematosus, and transplant rejection.